Semi-Annual Water Quality Report and Statistical Analysis

Prepared for

Lenoir County Subtitle D Lined MSWLF
LaGrange, North Carolina

January 2010

Permit Number: 54-09
MESCO Project Number: G10029.0

Completed on April 2, 2010

Municipal Engineering Services Company, P.A.
Garner, Boone and Morehead City, North Carolina

DENR USE ONLY: ☐ Paper Report ☐ Electronic Data - Email CD (data loaded: Yes / No) Doc/Event #:

NC DENR
Division of Waste Management - Solid Waste

Environmental Monitoring Reporting Form

Notice: This form and any information attached to it are "Public Records" as defined in NC General Statute 132-1. As such, these documents are available for inspection and examination by any person upon request (NC General Statute 132-6).

Instructions:

- **Prepare one form for each individually monitored unit.**
- **Please type or print legibly.**
- Attach a notification table with values that attain or exceed NC 2L groundwater standards or NC 2B surface water standards. The notification must include a preliminary analysis of the cause and significance of each value. (e.g. naturally occurring, off-site source, pre-existing condition, etc.).
- Attach a notification table of any groundwater or surface water values that equal or exceed the reporting limits.
- Attach a notification table of any methane gas values that attain or exceed explosive gas levels. This includes any structures on or nearby the facility (NCAC 13B .1629 (4)(a)(i).
- Send the original signed and sealed form, any tables, and Electronic Data Deliverable to: Compliance Unit, NCDENR-DWM, Solid Waste Section, 1646 Mail Service Center, Raleigh, NC 27699-1646.

Solid Waste Monitoring Data Submittal Information

Name of entity submitting data (laboratory, consultant, facility owner):

Municipal Engineering Services Co., PA

Contact for questions about data formatting. Include data preparer's name, telephone number and E-mail address:

Name: Jonathan Pfohl Phone: (919)772-5393

E-mail: jpfohl@mesco.com

Facility name:	Facility Address:	Facility Permit #	NC Landfill Rule: (.0500 or .1600)	Actual sampling dates (e.g., October 20-24, 2006)
Lenoir County Subtitle D Lined MSWLF, Phase 1	2949 Hodges Farm Road LaGrange, NC 28501	54-09	.1600	January 11, 2010

Environmental Status: (Check all that apply)

☐ Initial/Background Monitoring ☒ Detection Monitoring ☐ Assessment Monitoring ☐ Corrective Action

Type of data submitted: (Check all that apply)

☒ Groundwater monitoring data from monitoring wells
☐ Groundwater monitoring data from private water supply wells
☒ Leachate monitoring data
☐ Surface water monitoring data
☐ Methane gas monitoring data
☐ Corrective action data (specify) _____
☐ Other(specify) _____

Notification attached?

☐ No. No groundwater or surface water standards were exceeded.
☒ Yes, a notification of values exceeding a groundwater or surface water standard is attached. It includes a list of groundwater and surface water monitoring points, dates, analytical values, NC 2L groundwater standard, NC 2B surface water standard or NC Solid Waste GWPS and preliminary analysis of the cause and significance of any concentration.
☐ Yes, a notification of values exceeding an explosive methane gas limit is attached. It includes the methane monitoring points, dates, sample values and explosive methane gas limits.

Certification

To the best of my knowledge, the information reported and statements made on this data submittal and attachments are true and correct. Furthermore, I have attached complete notification of any sampling values meeting or exceeding groundwater standards or explosive gas levels, and a preliminary analysis of the cause and significance of concentrations exceeding groundwater standards. I am aware that there are significant penalties for making any false statement, representation, or certification including the possibility of a fine and imprisonment.

Jonathan Pfohl | Environmental Specialist | (919) 772-5393

Facility Representative Name (Print) | Title | (Area Code) Telephone Number

Jonathan Pfohl Digitally signed by Jonathan Pfohl DN: cn=Jonathan Pfohl, o=MESCO, ou, email=jpfohl@mesco.com, c=US Date: 2010.01.06 08:25:16 -05'00' 4/2/10

Signature | Date

Affix NC Licensed/ Professional Geologist Seal

P.O. BOX 97, Garner, NC 27529

Facility Representative Address

C-0281

NC PE Firm License Number (if applicable effective May 1, 2009)

Revised 6/2009

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OPERATION/CONSTRUCTION MANAGERS

Municipal Services

CIVIL/SANITARY ENGINEERS

Engineering Company, P.A.

April 2, 2010

Ms. Jaclynne Drummond
Solid Waste Section
Division of Waste Management
North Carolina Department of Environment and Natural Resources
401 Oberlin Road, Suite 150
Raleigh, NC 27605

Re: Semi-Annual Water Quality Monitoring and Statistical Analysis
Lenoir County Subtitle D Lined Landfill, Phase 1
Permit No. 54-09
MESCO Project No. G10029.0

Dear Ms. Drummond:

Introduction

The Lenoir County Subtitle D lined MSWLF located near LaGrange NC, is currently not accepting waste but is required to submit semi-annual compliance reports as a condition of the detection monitoring program under permit #54-09. The detection monitoring program outlined in the approved Sampling and Analysis Plans (SAP) contained in the *Design Hydrgeologic Study* dated August 19, 2002 consists of a total of nine monitoring locations. Environment 1 (E1) of Greenville, NC performed this sampling event on January 11, 2010 in accordance with the semi-annual monitoring schedule prescribed by the NC Solid Waste Section (SWS) rules/regulations as promulgated in 15A NCAC 13B.1600. The site location topographic map is depicted on the attached Plate 1.

As specified within 15A NCAC 13B.1632(j) and the SWS Environmental Monitoring Report Form this report contains sampling procedures, field and laboratory results, statistical analysis, groundwater and surface water characterization, and findings. A list of detections compared to Standards, field data results, a single-day potentiometric map, groundwater flow directions and flow rates table, statistical analysis, quality assurance/quality control data, and full laboratory analytical data results with chains of custody (C-O-C) are attached.

Sampling Procedure

E1 reportedly collected and performed laboratory analysis on water samples from four downgradient groundwater monitoring wells (MW-14 through MW-17) and two background wells (MW-13 and MW-18) on January 11, 2010. The leachate lagoon (LAGOON) was sampled on January 7, 2010. Quality control measures were also implemented during this event which included submittal and subsequent quantification of a travel blank (TB) and equipment blank (EB). Surface water monitoring location SW-3 was reported to be dry and therefore, not sampled. All monitoring locations are shown upon the enclosed single-day potentiometric map (Plate 2).

All sampling was reported to be conducted utilizing methodology outlined in the NCDENR *Solid Waste Section Guidelines for Groundwater, Soil, and Surface Water Sampling* revised April 2008. Static water levels in each well were measured electronically prior to purging. Additional static water level readings were also recorded from five additional piezometers in an effort to improve coverage for potentiometric map formulation. All of the collected samples were transported under proper C-O-C protocol and analyzed within the specified hold times for each method. The required field parameters (pH, specific conductance, and temperature) were reported by E1.

Field and Laboratory Results

All of the groundwater monitoring wells contained in SAP were reportedly sampled and analyzed for the 40 CFR Part 258, Appendix I list of volatile organic compounds (VOCs) and total metals per EPA Test Method 8260B and EPA Test Method 200.8, respectively. The lined leachate lagoon (LAGOON) was sampled and analyzed for the SWS required leachate specific parameters (Appendix I VOCs, Appendix I metals, nitrate, phosphorus, chemical oxygen demand, biological oxygen demand, pH, and sulfate). Additional parameters as requested by the waste-water treatment plant was also reported for the LAGOON sample.

All ground and surface water samples were analyzed down to the laboratory-established Method Detection Limits (MDL) with reference to the values current as of the sampling event. Enclosed Table 1 summarizes all detected constituents within groundwater and surface water samples above the current Solid Waste Section detection limit (SWSL), Groundwater Protection Standards (GWP) or the North Carolina Groundwater Standards (2L).

Field parameter data is presented in the laboratory report and it appears to be generally consistent relative to each other and congruent with data historically reported.

Groundwater Samples

The only constituent detected in quantifiable concentrations was barium within MW-17 and background well MW-13. The concentrations of barium detected within samples MW-13 and MW-17 is now and never have been above the 2L Standard. Vanadium was detected in low non-quantifiable concentrations (<SWSL) but above the GWP in samples taken from MW-16 and MW-17. VOCs continue to be absent from all groundwater samples.

Surfacewater Samples

The lone surface water monitoring point SW-3 was reported to be dry, therefore no surface water data was obtained during this event.

Leachate Samples

As presented in attached Table 1 the leachate sample (LAGOON) contained quantifiable concentrations of four metals and four VOCs. The detected concentrations are not grossly elevated, consistent with historical results, and typical of leachate samples from MSWLF.

Statistical Analysis

The numbers and types of metal detections continue to be fairly consistent with historical results. The interwell analysis results indicate that none of the detected metals have exhibited a statistically significant increase (SSI) in concentration over background levels established by samples collected from the background wells MW-13 and MW-18.

Groundwater and Surface Water Characterization

MESCO prepared the enclosed single-day potentiometric map from groundwater elevation data taken from the uppermost aquifer during this event. Groundwater flow rates and directions were also calculated based upon this data and is included in the attached Table 2. The flow directions were calculated to be in a general northeasterly direction towards the designated wetlands. The calculated groundwater flow rates ranged from approximately 4 feet/year (MW-13) to 324 feet/year (MW-14) averaging approximately 116 feet/year. Surface water SW-3 has reportedly been dry during each event since July 2007.

Findings

The results of the laboratory data and subsequent statistical analysis performed for this monitoring event indicate that the groundwater quality beneath the MSWLF and leachate lagoon remain unimpacted.

Closing

Detection monitoring will continue and the next semi-annual sampling event is tentatively scheduled for July 2010. Please contact us by phone at (919) 772-5393 or by email at jpfohl@mesco.com if you have any questions or comments.

Sincerely,
MUNICIPAL ENGINEERING SERVICES CO., P.A.

Jonathan Pfohl
Environmental Specialist

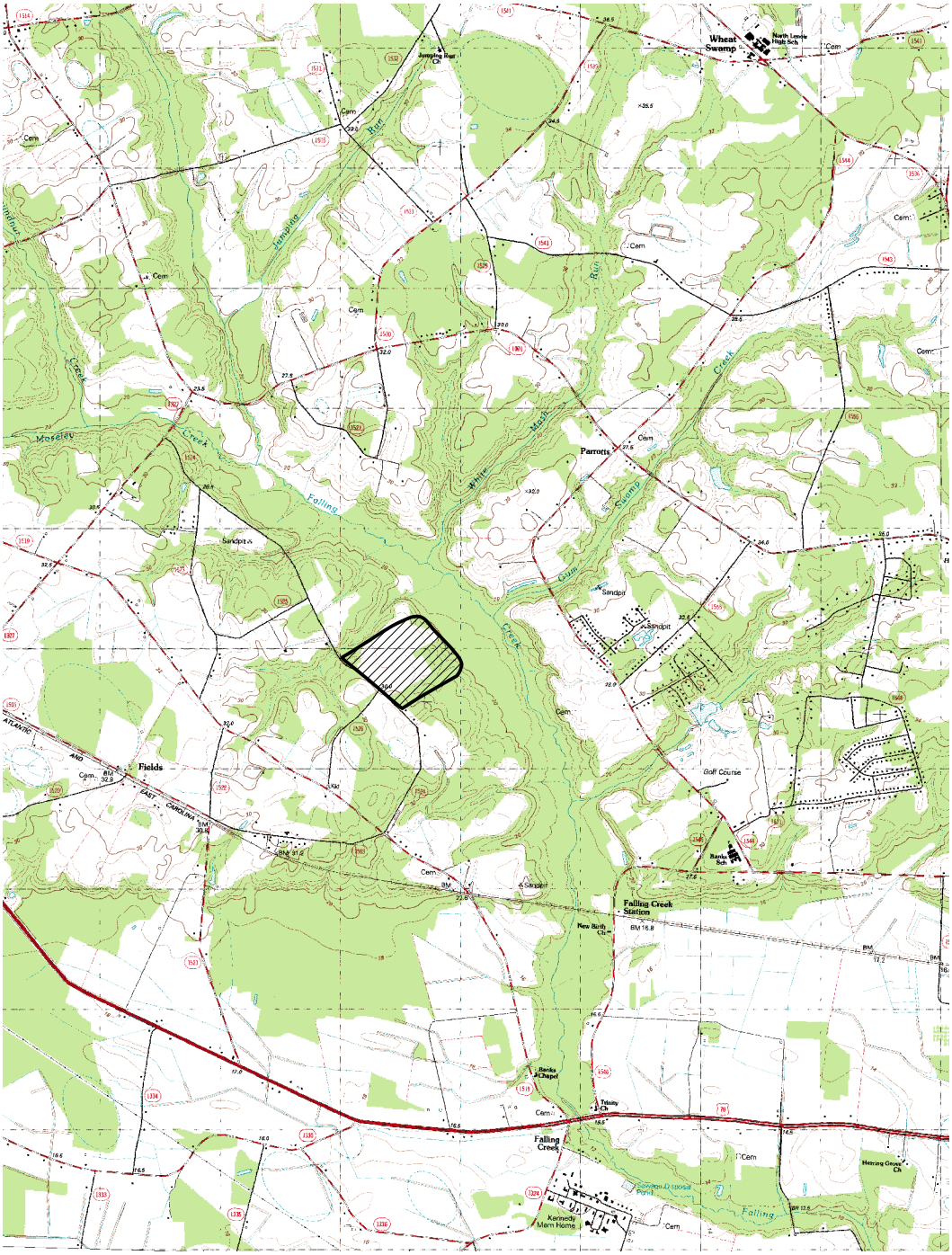
Enclosures
cc: Mr. Tom Miller
Lenoir County

Plates

Topographic Map with Site Location

Semi-Annual Water Quality Monitoring

PLATE 1 Lenoir County MSWLF Facility



QUADRANGLE LEGEND

Date Completed	5/31/2007
Created By	M. Clement
Project Name	Semi-Annual Water Quality Monitoring
Site Name	Lenoir County MSWLF
Project Number	G10029.0

ROAD CLASSIFICATION

Primary highway, hard surface

Secondary highway, hard surface

Light-duty road, hard or improved surface

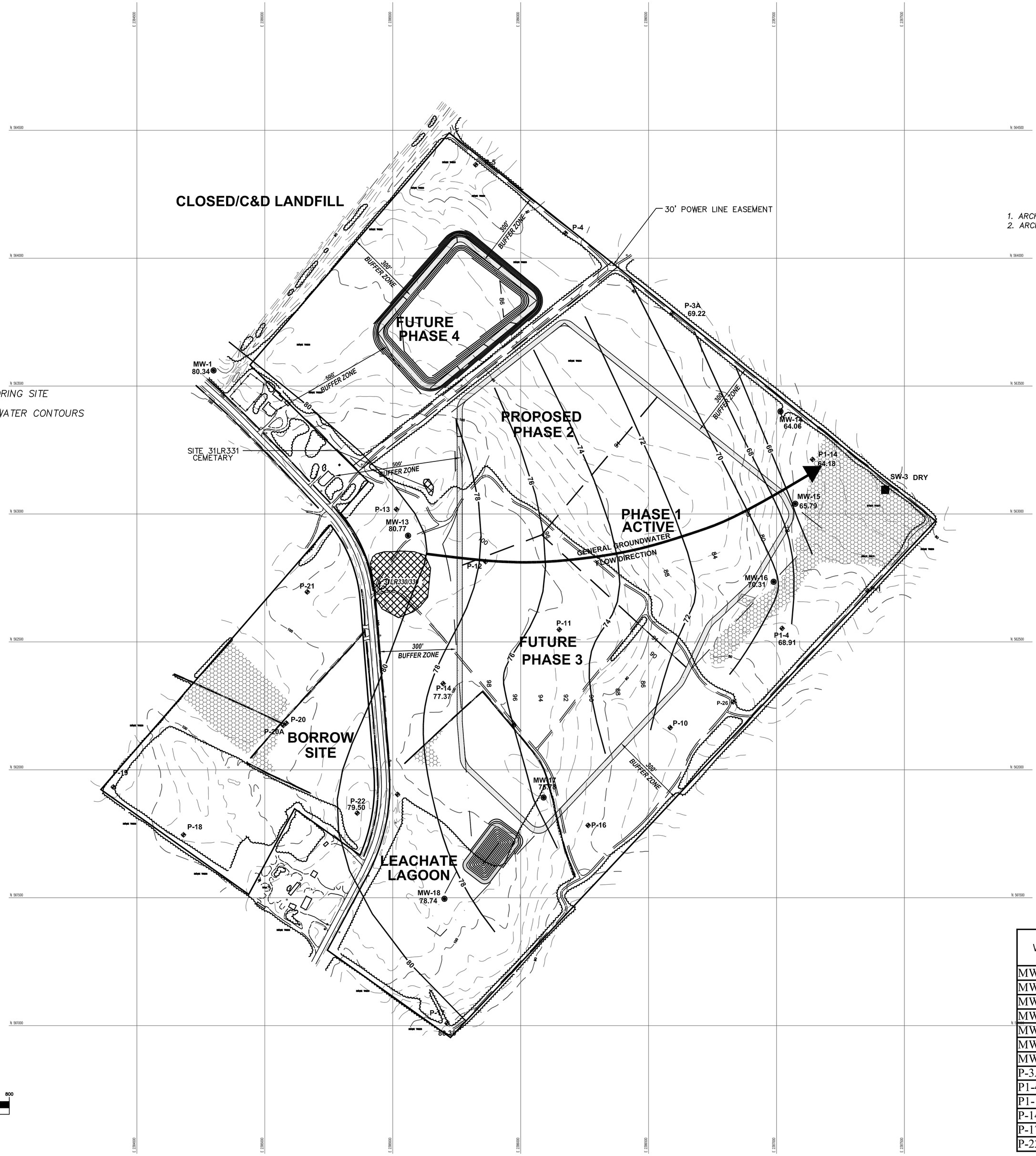
Unimproved road

Interstate Route U. S. Route State Route

Municipal Engineering Services Company, PA

LEGEND

- EXISTING CONTOURS
- 90 — PROPOSED BASE GRADE
- PROPERTY LINE
- EXISITING PATH
- BUFFER ZONE
- PHASES OF OPERATION
- EXISTING PIEZOMETER
- REF # — ARCHAEOLOGICAL SITES
- WETLANDS
- MONITORING WELL
- SURFACE WATER MONITORING SITE
- EQUIPOTENTIAL GROUNDWATER CONTOURS



NOTES

1. ARCHAEOLOGICAL SITE 31LR331 (CEMETARY) WILL NOT BE DISTURBED.
2. ARCHAEOLOGICAL SITE 31LR330 WILL BE DISTURBED.

GRAPHIC SCALE

200 0 100 200 400 800

(IN FEET)
1 inch = 200 ft.

Lenoir County Subtitle D Lined Landfill
January 11, 2010

WELL #	TOP OF PIPE ELEVATION (FT)	DEPTH TO WATER (FT)	WATER ELEVATION (FT)
MW-13	107.81	27.04	80.77
MW-14	74.81	10.84	63.97
MW-15	71.64	5.85	65.79
MW-16	76.36	6.05	70.31
MW-17	101.06	25.28	75.78
MW-18	106.74	28.00	78.74
MW-1	98.34	18.00	80.34
P-3A	82.19	12.97	69.22
P1-4	78.80	9.89	68.91
P1-14	69.22	5.04	64.18
P-14	104.07	26.70	77.37
P-17	90.57	10.19	80.38
P-22	110.40	30.90	79.50

Engineering Company, P.A.
P.O. BOX 349 BOONE, N.C. 28607
(828) 262-1767
Municipal Services
LICENSE NUMBER: C-0281
P.O. BOX 97 GARNER, N.C. 27529
(919) 772-5393

SUBTITLE D LINED MSW LANDFILL FACILITY
LENOIR COUNTY
NORTH CAROLINA

DESCRIPTION | REV. | BY | DATE

SINGLE DAY POTENTIOMETRIC MAP
JANUARY 11, 2010

SCALE: 1"=200'
DATE: 3/24/10
DRWN. BY: M. GERMAN
CHKD. BY: J. PFOHL
PROJECT NUMBER
G10029.0
DRAWING NO.
SHEET NO. PLATE 2

Tables

Table 2
Hydrologic Properties at Monitoring Well Locations
Lenoir County Subtitle D Lined MSWLF

Monitoring Well	Hydraulic Conductivity (cm/sec)	Effective Porosity (%)	Hydraulic Gradient	Groundwater Velocity Rate (ft/yr)	Flow Direction	Water Table Depth (ft)	Water Table Elevation (ft)	Screened Interval Lithology
MW-13	7.69E-05	23%	0.012	4	N58E	27.04	80.77	Silty Sand
MW-14	3.38E-03	23%	0.021	324	N61E	10.84	63.97	Silty Sand
MW-15	2.89E-03	22%	0.019	258	N61E	5.85	65.79	Silty Sand
MW-16	9.72E-04	23%	0.018	77	N82E	6.05	70.31	Silty Sand
MW-17	1.13E-03	23%	0.005	27	N57E	25.28	75.78	Silty Sand
MW-18	1.25E-04	23%	0.008	5	N52E	28.00	78.74	Silty Clayey Sand

NOTE: 1.Hydraulic conductivity (K), values for all wells based upon slug test results coducted by MESCO in December 2005.

2. Effective Porosity (ne), values obtained from the MESCO design hydrogeologic report completed in August 2002.

3.Water levels were measured prior to sampling by Environment 1, Inc. on January 11, 2010.

Linear velocity rate (Q) is defined by the equation:

where $Q = -\frac{K}{n_e} \cdot \frac{dh}{dl}$

K = hydraulic conductivity

ne = effective porosity

dh = head difference

dl = horizontal distance

Minimum v_x: 4

Mean v_x: 116

Median v_x: 52

Maximum v_x: 324

Appendix A
Statistical Analysis

Statistical Analysis Methodology

Statistical Analysis Methodologies

A statistical analysis was performed on metal and VOC detections utilizing Chemstat software, which was developed specifically for RCRA Subtitle D sites and conforms to both current EPA and SWS protocols. A step-wise approach was utilized to evaluate trends in groundwater quality to identify a potential release from the landfill. Analytical data underwent preliminary data evaluation to reduce the data set and to determine if any "outliers" (defined as data that appears to be incongruent with respect to historical results) or seasonality exists that may potentially effect the results of the subsequent statistical analysis. All statistical tests were evaluated at the 0.05 level of significance, 95% confidence level, and were conducted as one-tailed tests. Statistical background values were calculated using un-manipulated data from historical semi-annual sampling events for this facility from 2004 to the current event. Historical data compiled for monitoring well(s) were used as the baseline. Groundwater data from the downgradient well(s) were compared to the pooled background groundwater data (inter-well) using methods which varied depending upon the percentage of non-detects. If necessary and applicable further intra-well analysis was conducted to compare current data from a single well is compared to it's own respective historical data. Finally parameters that indicated statistical significance after previous tests are evaluated to estimate the change in concentration over time to determine if there is an upward trend.

Preliminary Data Evaluation

A preliminary data screening was conducted upon detections. Parameters detected with concentrations found below quantifiable levels (SWSL) and below those detected within the background well were eliminated and a statistical analysis was not conducted for that particular constituent/well.

Data distributions were reviewed using box and whiskers plots (enclosed charts). In order to evaluate variability in concentrations with respect to time and season, time series plots were generated for select constituents (enclosed charts). Time series plots were also visually evaluated for seasonality and "outliers". Suspected outliers were than further evaluated through Dixon's Test for Outliers or Rosner's Test for Outliers depending upon the number of samples and the data distribution. Outliers are generally not censored from the current nor historical data set prior to statistical analysis but are further evaluated and or qualified as necessary.

Inter-well Analyses

Inter-well statistical analysis was conducted upon total metals detected during this sampling event. Monitoring well MW-1 was defined as the background well, and an upper tolerance limit (UTL) with 95% coverage was computed for each detected constituent from the background data at a 95% level of confidence. For each tested constituent, an appropriate statistical analysis method was selected based on the percentages of non-detects (%ND) in the historical background data. The following Table 1 summarizes the methods used for four different %ND ranges.

Table 1. Statistical Analysis Methods for Various %ND Ranges

%ND	Analysis Method	ND Substitution
%ND<15%	Parametric tolerance limit	1/2 ND
15%<%ND<50%	Parametric tolerance limit	Cohen or 1/2 ND
50%<%ND<90%	Non-parametric tolerance limit	1/2 ND
90%<%ND	Poisson tolerance limit	-

NOTE: For parametric tolerance interval, normality of the background data was checked by the Shapiro-Wilks normality test, as the method requires that the data be normally distributed.

Intra-well Analysis

Intra-well analysis was conducted only upon those constituents that were found to be statistically significant by inter-well analysis and there is sufficient historical samples known to not be impacted. With intra-well comparisons, data from a single well is compared to historical data from the same well. In general, intra-well analysis is typically used to differentiate true contamination from spatial variability. Intra-well analysis is generally conducted through interpretation of Shewhart-CUSUM and/or Exponentially Weighted Moving Average (EWMA) control charts. where applicable.

Poisson Prediction Interval (VOCs)

All historical VOC detections in the background well MW-1 were pooled in order to determine the total number of detections, from which the expected number of detections in a single downgradient monitoring point (y^*) was derived by utilizing the Poisson prediction interval (Table A2) The parameter y^* is defined by the following equation:

$$y^* = cy + \frac{t^2 c}{2} + tc\sqrt{y\left(1+\frac{1}{c}\right)+\frac{t^2}{4}}$$

where

c = 1/ n (n =number of background samples)
t = one-sided value of student's t -Statistic at 95% confidence [a]
y = number of events observed in n previous samples
$\hat{y}$ = expected number of events in a single future sample

[a] Gibbons, R.D., 1994, Statistical methods for groundwater monitoring: John Wiley & Sons, Inc., p.12.

For each monitoring location showing any VOC detections, the number of detected VOCs was counted with each detection being considered a "hit". The number was then compared with the expected number of detections derived from the background VOC data (Table A3). The value of Student's t -Statistic was derived from tabulated values included in Gibbons (1994).

Determine Data Trend Over Time

The parameters that indicated statistical significance a further qualitative evaluation is employed to determine trends in concentration over time. Implementation of Mann-Kendall Trend Analysis or Sen's Slope Analysis is generally used to determine if the concentration trend is increasing, decreasing, or remaining constant.

Statistical Analysis Summary
Tables & Graphs

Inter-Well Analysis Summary
Lenoir County Subtitle D Lined Landfill

Background Wells: MW-13 & MW-18

Barium, total

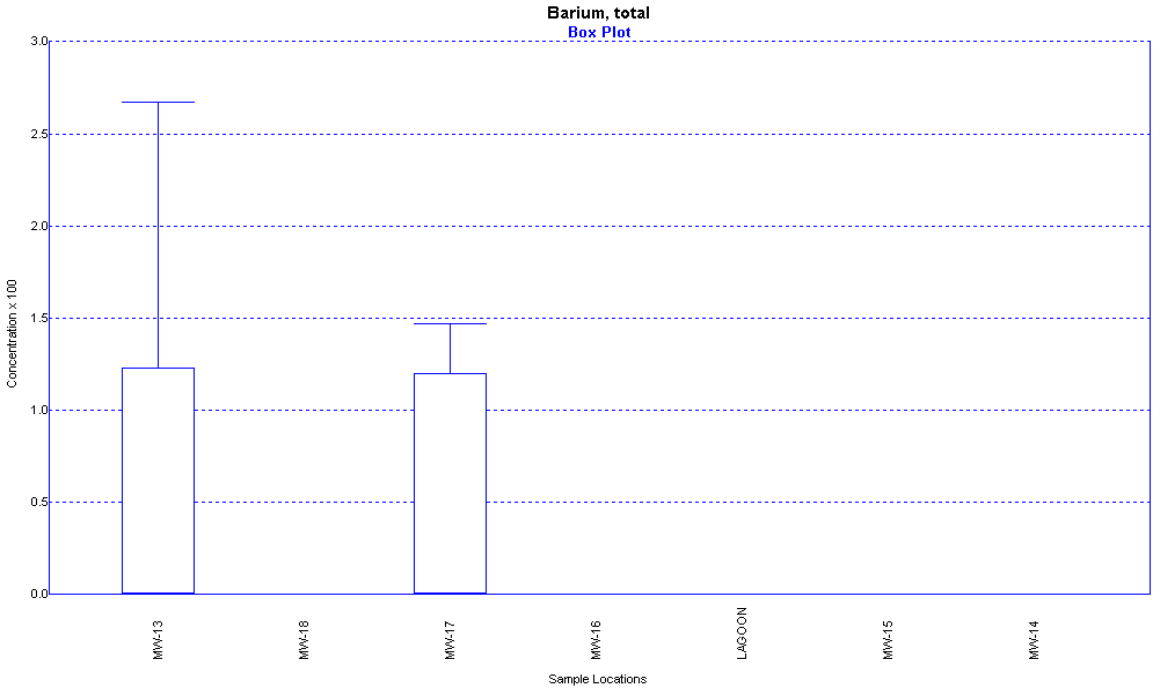
%ND	Normality	Method	ND Adj.	Upper Limit (a = 95%)	Unit
82.10	-	Non-Parametric Tolerance Interval	½ ND	267	ug/L

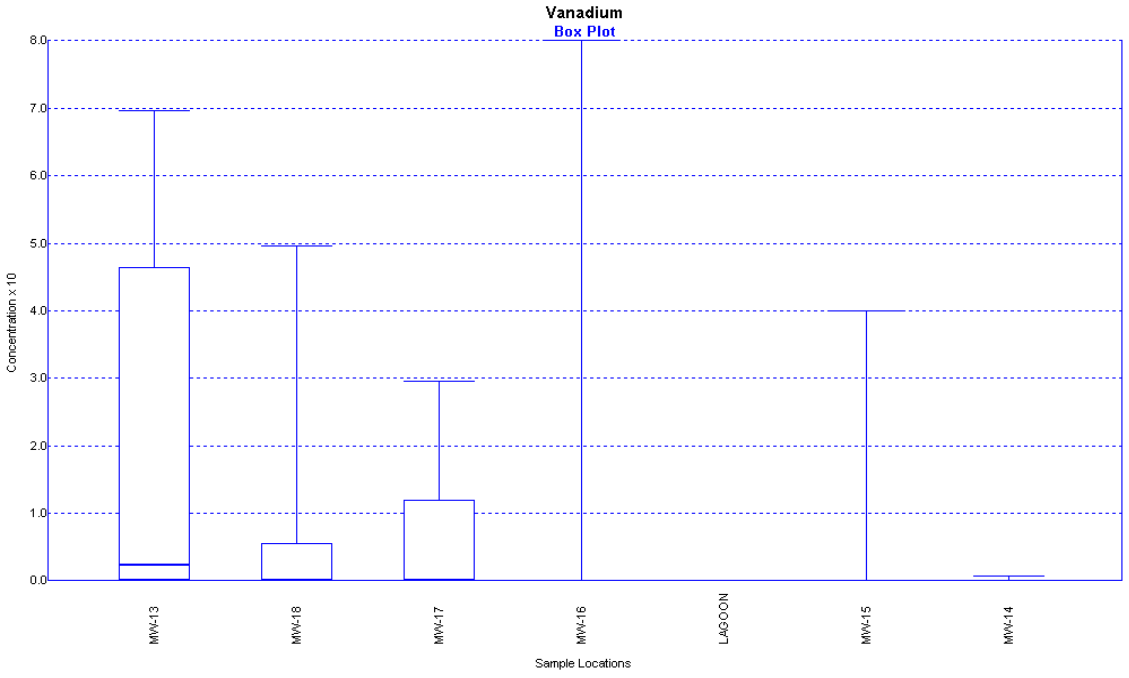
Well	Result	Significance
MW-17	119	no

NOTE: Bold-faced monitoring points indicate detected levels exceed North Carolina Groundwater 2L Standard.

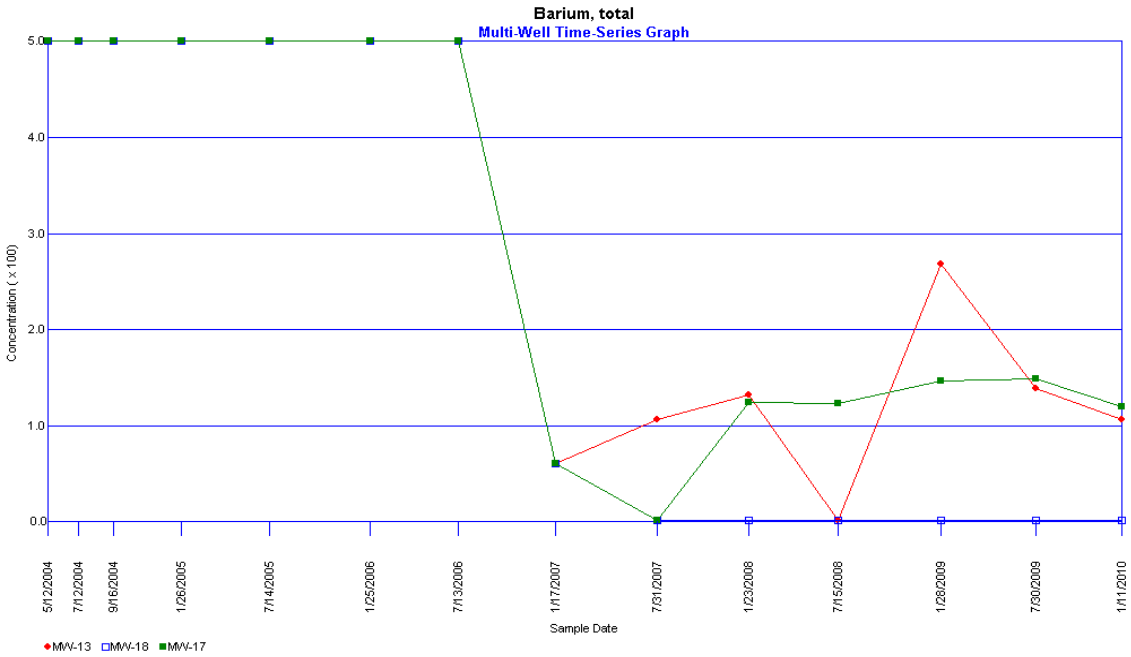
NO Constituent Concentration Exhibited a SSI

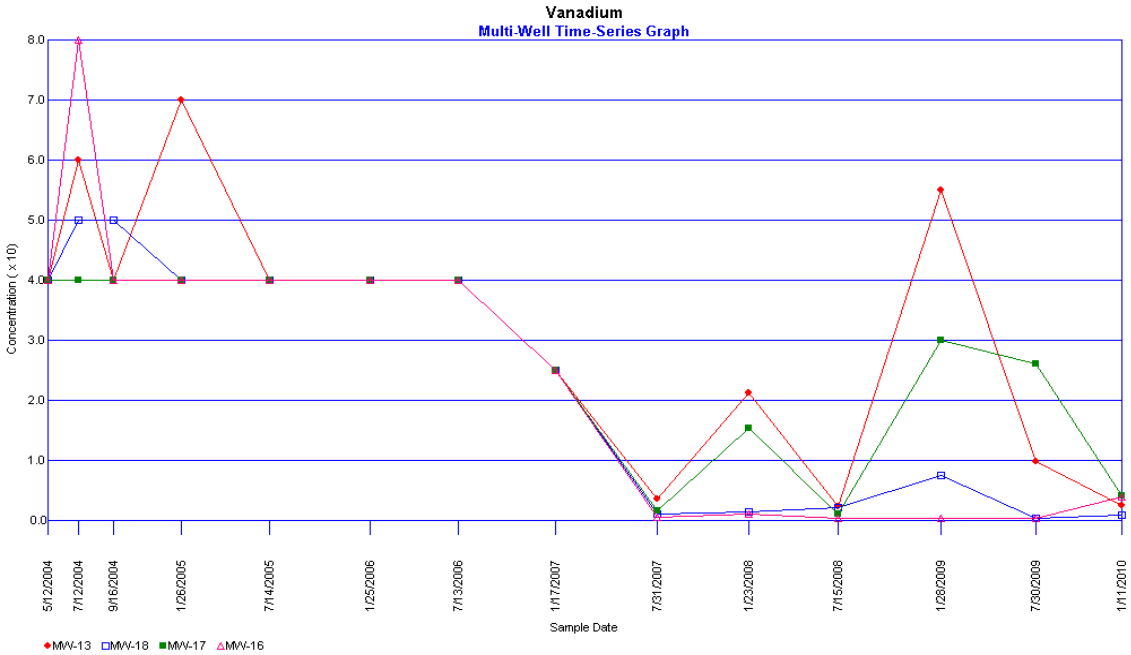
Box Plots for Select Constituents (Metals)
Lenoir County Subtitle D Lined Landfill





Time Series Plots for Select Constituents
Lenoir County Subtitle D Lined Landfill
ND Depicted at Detection Limit





Summary of Pooled VOCs in Background Well (MW-13 & MW-18)
Lenoir County Subtitle D Lined Landfill

Constituent	Samples	NDs	% NDs
1,1,1,2-Tetrachloroethane	28	28	100.00
1,1,1-Trichloroethane	28	28	100.00
1,1,2,2-Tetrachloroethane	28	28	100.00
1,1,2-Trichloroethane	28	28	100.00
1,1-Dichloroethane	28	28	100.00
1,1-Dichloroethene	28	28	100.00
1,2,3-Trichloropropane	28	28	100.00
1,2-Dibromo-3-chloropropane	28	28	100.00
1,2-Dibromoethane	28	28	100.00
1,2-Dichlorobenzene	28	28	100.00
1,2-Dichloroethane	28	28	100.00
1,2-Dichloropropane	28	28	100.00
1,4-Dichlorobenzene	28	28	100.00
2-Butanone	28	28	100.00
2-Hexanone	28	28	100.00
4-Methyl-2-Pentanone	28	28	100.00
Acetone	28	28	100.00
Acrylonitrile	28	28	100.00
Benzene	28	28	100.00
Bromochloromethane	28	28	100.00
Bromodichloromethane	28	28	100.00
Bromoform	28	28	100.00
Bromomethane	28	28	100.00
Carbon disulfide	28	28	100.00
Carbon tetrachloride	28	28	100.00
Chlorobenzene	28	28	100.00
Chloroethane	28	28	100.00
Chloroform	28	28	100.00
Chloromethane	28	28	100.00
cis-1,2-Dichloroethene	28	28	100.00
cis-1,3-Dichloropropene	28	28	100.00
Chlorodibromomethane	28	28	100.00
Dibromomethane	28	28	100.00
Ethylbenzene	28	28	100.00
Iodomethane	28	28	100.00
Dichloromethane	28	28	100.00
Styrene	28	28	100.00
Tetrachloroethylene	28	28	100.00
Toluene	28	28	100.00
trans-1,2-Dichloroethene	28	28	100.00
trans-1,3-Dichloropropene	28	28	100.00
trans-1,4-Dichloro-2-butene	28	28	100.00
Trichloroethylene	28	28	100.00
Trichlorofluoromethane	28	28	100.00
Vinyl acetate	28	28	100.00
Vinyl chloride	28	28	100.00
Xylene	28	28	100.00
Total	**1316**	**1316**	**100.00**

"j" qualifiers omitted for statistical analysis purposes

Poisson Prediction Interval Based upon Pooled Background VOCs
Lenoir County Subtitle D Lined Landfill

All detected VOCs (Background Wells: MW-13 & MW-18)

Constituent	None
None	-
Detection(s) per Scan	0.00

"j" Qualifiers treated as ND

Total number of sampling events [n] = 28
Total number of detections in background wells [y] = 0
Number of comparisons (downgradient wells) [k] = 5
One-sided value of Student's t-statistic (95% confidence) [t] = 1.98
Expected number of detections in a single future sample [y*] = **0.1394**

NO SS VOC Detections at a 95% Confidence Level.

Statistical Analysis
Basic Statistics

Basic Statistics

Parameter: Barium, total

Original Data (Not Transformed)
Non-Detects Replaced with 1/2 DL

	Total Observations
84	
Total Non-Detects	74
Pooled Mean	143.879
Pooled Std Dev	115.574
Background Mean	153.83
Background Std Dev	112.87

Background Wells

There are 2 background wells

Well	Samples	Non-Detects	% ND	Total
MW-13	14	9	64.2857	2527.06
MW-18	14	14	100	1780.19

Well	Mean	Std Dev	Std Err	Rank Sum	Rank Mean
MW-13	180.504	92.8239	0	733.5	52.3929
MW-18	127.156	127.713	0	525	37.5

Compliance Wells

There are 4 compliance wells

Well	Samples	Non-Detects	% ND	Total
MW-17	14	9	64.2857	2438.02
MW-16	14	14	100	1780.19
MW-15	14	14	100	1780.19
MW-14	14	14	100	1780.19

Well	Mean	Std Dev	Dif From Bkg	Std Err	Rank Sum	Rank Mean
MW-17	174.144	88.2421	20.3141	38.1831	736.5	52.6071
MW-16	127.156	127.713	-26.6738	38.1831	525	37.5
MW-15	127.156	127.713	-26.6738	38.1831	525	37.5
MW-14	127.156	127.713	-26.6738	38.1831	525	37.5

Analysis of Variance Statistics

SS Wells	47263.3
SS Total	1.10865e+006

Kruskal-Wallis Statistics

Non-Detect Rank	37.5
Background Rank Sum	1258.5
Background Rank Mean	44.9464
H Statistic	4.44998
H Adjusted for Ties	14.0671

Statistical Analysis
Inter-well Analysis

Non-Parametric Tolerance Interval

Parameter: Barium, total

Original Data (Not Transformed)
Non-Detects Replaced with 1/2 DL

Total Percent Non-Detects = 76.1905%
Background Samples (n) = 28
Maximum Background Concentration = 267
Minimum Coverage = 89.9%
Average Coverage = 96.5517%

Well	Sample	Result	Impacted
MW-17	5/12/2004	ND<250	FALSE
MW-17	7/12/2004	ND<250	FALSE
MW-17	9/16/2004	ND<250	FALSE
MW-17	1/26/2005	ND<250	FALSE
MW-17	7/14/2005	ND<250	FALSE
MW-17	1/25/2006	ND<250	FALSE
MW-17	7/13/2006	ND<250	FALSE
MW-17	1/17/2007	ND<30	FALSE
MW-17	7/31/2007	ND<0.02	FALSE
MW-17	1/23/2008	123	FALSE
MW-17	7/15/2008	122	FALSE
MW-17	1/28/2009	146	FALSE
MW-17	7/30/2009	148	FALSE
MW-17	1/11/2010	119	FALSE

Appendix B
Laboratory Analysis Report & Chains of Custody

Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

P.O. BOX 7085, 114 OAKMONT DRIVE
GREENVILLE, N.C. 27835-7085

PHONE (252) 756-6208
FAX (252) 756-0633

ID#: 6053

LENOIR CO. LANDFILL (NEW)
COUNTY OF LENOIR
MR. TOM MILLER
P.O. BOX 756
KINSTON ,NC 28502

DATE COLLECTED: 01/11/10
DATE REPORTED : 01/22/10

REVIEWED BY:

PARAMETERS	MDL	SWSL	MW-13	MW-14	MW-15	MW-16	MW-17	Analysis Date	Analyst	Method Code
PH (field measurement), Units			4.2	4.5	4.7	4.8	4.1	01/11/10	RJH	SM4500HB
Antimony, ug/l	0.06	6.0	--- U	0.5 J	0.2 J	0.1 J	0.1 J	01/14/10	LFJ	EPA200.8
Arsenic, ug/l	0.17	10.0	0.3 J	--- U	0.7 J	0.6 J	1 J	01/14/10	LFJ	EPA200.8
Barium, ug/l	0.04	100.0	106	31.2 J	28 J	12.2 J	119	01/14/10	LFJ	EPA200.8
Beryllium, ug/l	0.06	1.0	0.4 J	0.1 J	0.1 J	0.1 J	0.3 J	01/14/10	LFJ	EPA200.8
Cadmium, ug/l	0.04	1.0	0.1 J	0.1 J	0.1 J	0.1 J	0.1 J	01/14/10	LFJ	EPA200.8
Cobalt, ug/l	0.02	10.0	1.7 J	0.8 J	0.7 J	0.4 J	1.3 J	01/14/10	LFJ	EPA200.8
Copper, ug/l	0.04	10.0	1 J	0.5 J	1.4 J	1.1 J	0.8 J	01/14/10	LFJ	EPA200.8
Total Chromium, ug/l	0.10	10.0	0.9 J	0.3 J	1.3 J	1.7 J	1.6 J	01/14/10	LFJ	EPA200.8
Lead, ug/l	0.04	10.0	0.8 J	0.6 J	1.3 J	0.7 J	3.7 J	01/14/10	LFJ	EPA200.8
Nickel, ug/l	0.04	50.0	1.5 J	0.6 J	0.9 J	0.5 J	1.2 J	01/14/10	LFJ	EPA200.8
Selenium, ug/l	0.12	10.0	--- U	--- U	--- U	--- U	--- U	01/14/10	LFJ	EPA200.8
Silver, ug/l	0.04	10.0	0.1 J	0.1 J	0.2 J	0.1 J	0.7 J	01/14/10	LFJ	EPA200.8
Thallium, ug/l	0.03	5.0	--- U	--- U	--- U	--- U	--- U	01/14/10	LFJ	EPA200.8
Vanadium, ug/l	0.28	25.0	2.5 J	0.9 J	2.6 J	3.9 J	4.1 J	01/14/10	LFJ	EPA200.8
Zinc, ug/l	0.14	10.0	3.4 J	1.3 J	7.8 J	2.2 J	4.1 J	01/14/10	LFJ	EPA200.8
Conductivity (at 25c), uMhos	1.0	1.0	99	76	151	31	163	01/11/10	RJH	SM2510B
Temperature, °C			18	15	11	11	17	01/11/10	RJH	SM2550B
Static Water Level, feet			27.04	10.84	5.85	6.05	25.28	01/11/10	RJH	
Well Depth, feet			31.59	23.56	18.26	24.11	30.91	01/11/10	RJH	

J = Between MDL and SWSL, U = Below ALL Quanititation Limits.

Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

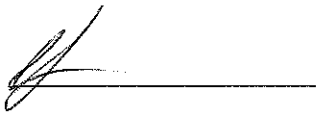
P.O. BOX 7085, 114 OAKMONT DRIVE
GREENVILLE, N.C. 27835-7085

PHONE (252) 756-6208
FAX (252) 756-0633

ID#: 6053

LENOIR CO. LANDFILL (NEW)
COUNTY OF LENOIR
MR. TOM MILLER
P.O. BOX 756
KINSTON ,NC 28502

DATE COLLECTED: 01/11/10
DATE REPORTED : 01/22/10

REVIEWED BY: 

PARAMETERS	MDL	SWSL	MW-18	SW-3	Piezometer #22	Pizeometer #1-4	Piezometer #1-14	Analysis Date	Analyst	Method Code
PH (field measurement), Units			4.7	Missing				01/11/10	RJH	SM4500HB
Antimony, ug/l	0.06	6.0	0.4 J	Missing				01/14/10	LFJ	EPA200.8
Arsenic, ug/l	0.17	10.0	--- U	Missing				01/14/10	LFJ	EPA200.8
Barium, ug/l	0.04	100.0	13.7 J	Missing				01/14/10	LFJ	EPA200.8
Beryllium, ug/l	0.06	1.0	0.1 J	Missing				01/14/10	LFJ	EPA200.8
Cadmium, ug/l	0.04	1.0	0.1 J	Missing				01/14/10	LFJ	EPA200.8
Cobalt, ug/l	0.02	10.0	0.3 J	Missing				01/14/10	LFJ	EPA200.8
Copper, ug/l	0.04	10.0	2.8 J	Missing				01/14/10	LFJ	EPA200.8
Total Chromium, ug/l	0.10	10.0	--- U	Missing				01/14/10	LFJ	EPA200.8
Lead, ug/l	0.04	10.0	0.4 J	Missing				01/14/10	LFJ	EPA200.8
Nickel, ug/l	0.04	50.0	0.3 J	Missing				01/14/10	LFJ	EPA200.8
Selenium, ug/l	0.12	10.0	--- U	Missing				01/14/10	LFJ	EPA200.8
Silver, ug/l	0.04	10.0	0.1 J	Missing				01/14/10	LFJ	EPA200.8
Thallium, ug/l	0.03	5.0	0.1 J	Missing				01/14/10	LFJ	EPA200.8
Vanadium, ug/l	0.28	25.0	0.8 J	Missing				01/14/10	LFJ	EPA200.8
Zinc, ug/l	0.14	10.0	2.7 J	Missing				01/14/10	LFJ	EPA200.8
Conductivity (at 25c), uMhos	1.0	1.0	29	Missing				01/11/10	RJH	SM2510B
Temperature, °C			16	Missing				01/11/10	RJH	SM2550B
Static Water Level, feet			28.00		30.90	9.89	5.04	01/11/10	RJH	
Well Depth, feet			33.99					01/11/10	RJH	

J = Between MDL and SWSL, U = Below ALL Quanititation Limits.

Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

P.O. BOX 7085, 114 OAKMONT DRIVE
GREENVILLE, N.C. 27835-7085

PHONE (252) 756-6208
FAX (252) 756-0633

ID#: 6053

LENOIR CO. LANDFILL (NEW)
COUNTY OF LENOIR
MR. TOM MILLER
P.O. BOX 756
KINSTON ,NC 28502

DATE COLLECTED: 01/11/10
DATE REPORTED : 01/22/10

REVIEWED BY:

PARAMETERS	MDL	SWSL	Piezometer #14	Piezometer #3A	Pizeometer #16	Piezometer #17	Analysis Date	Analyst	Method Code
Static Water Level, feet			26.70	12.97	Missing	10.19	01/11/10	RJH	

J = Between MDL and SWSL, U = Below ALL Quanititation Limits.

Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

P.O. BOX 7085, 114 OAKMONT DRIVE
GREENVILLE, N.C. 27835-7085

PHONE (252) 756-6208
FAX (252) 756-0633

CLIENT: LENOIR CO. LANDFILL (NEW)
COUNTY OF LENOIR
MR. TOM MILLER
P.O. BOX 756
KINSTON, NC 28502

CLIENT ID: 6053

ANALYST: MAO
DATE COLLECTED: 01/11/10
DATE REPORTED: 01/22/10

REVIEWED BY: _____

VOLATILE ORGANICS
EPA METHOD 8260B

PARAMETERS, ug/l	Date Analyzed: MDL	SWSL	01/12/10 MW-13	01/12/10 MW-14	01/12/10 MW-15	01/12/10 MW-16	01/13/10 MW-17
1. Chloromethane	0.77	1.0	--- U	--- U	--- U	--- U	--- U
2. Vinyl Chloride	0.63	1.0	--- U	--- U	--- U	--- U	--- U
3. Bromomethane	0.67	10.0	--- U	--- U	--- U	--- U	--- U
4. Chloroethane	0.48	10.0	--- U	--- U	--- U	--- U	--- U
5. Trichlorofluoromethane	0.24	1.0	--- U	--- U	--- U	--- U	--- U
6. 1,1-Dichloroethene	0.17	5.0	--- U	--- U	--- U	--- U	--- U
7. Acetone	9.06	100.0	--- U	--- U	--- U	--- U	--- U
8. Iodomethane	0.26	10.0	--- U	--- U	--- U	--- U	--- U
9. Carbon Disulfide	0.23	100.0	--- U	--- U	--- U	--- U	--- U
10. Methylene Chloride	0.64	1.0	--- U	--- U	--- U	--- U	--- U
11. trans-1,2-Dichloroethene	0.23	5.0	--- U	--- U	--- U	--- U	--- U
12. 1,1-Dichloroethane	0.20	5.0	--- U	--- U	--- U	--- U	--- U
13. Vinyl Acetate	0.20	50.0	--- U	--- U	--- U	--- U	--- U
14. Cis-1,2-Dichloroethene	0.25	5.0	--- U	--- U	--- U	--- U	--- U
15. 2-Butanone	2.21	100.0	--- U	--- U	--- U	--- U	--- U
16. Bromochloromethane	0.27	3.0	--- U	--- U	--- U	--- U	--- U
17. Chloroform	0.25	5.0	--- U	--- U	--- U	--- U	--- U
18. 1,1,1-Trichloroethane	0.19	1.0	--- U	--- U	--- U	--- U	--- U
19. Carbon Tetrachloride	0.22	1.0	--- U	--- U	--- U	--- U	--- U
20. Benzene	0.24	1.0	--- U	--- U	--- U	--- U	--- U
21. 1,2-Dichloroethane	0.27	1.0	--- U	--- U	--- U	--- U	--- U
22. Trichloroethene	0.23	1.0	--- U	--- U	--- U	--- U	--- U
23. 1,2-Dichloropropane	0.21	1.0	--- U	--- U	--- U	--- U	--- U
24. Bromodichloromethane	0.21	1.0	--- U	--- U	--- U	--- U	--- U
25. Cis-1,3-Dichloropropene	0.24	1.0	--- U	--- U	--- U	--- U	--- U
26. 4-Methyl-2-Pentanone	1.19	100.0	--- U	--- U	--- U	--- U	--- U
27. Toluene	0.23	1.0	--- U	--- U	--- U	--- U	--- U
28. trans-1,3-Dichloropropene	0.28	1.0	--- U	--- U	--- U	--- U	--- U
29. 1,1,2-Trichloroethane	0.25	1.0	--- U	--- U	--- U	--- U	--- U
30. Tetrachloroethene	0.17	1.0	--- U	--- U	--- U	--- U	--- U
31. 2-Hexanone	1.57	50.0	--- U	--- U	--- U	--- U	--- U
32. Dibromochloromethane	0.24	3.0	--- U	--- U	--- U	--- U	--- U
33. 1,2-Dibromoethane	0.26	1.0	--- U	--- U	--- U	--- U	--- U
34. Chlorobenzene	0.30	3.0	--- U	--- U	--- U	--- U	--- U
35. 1,1,1,2-Tetrachloroethane	0.22	5.0	--- U	--- U	--- U	--- U	--- U
36. Ethylbenzene	0.21	1.0	--- U	--- U	--- U	--- U	--- U
37. Xylenes	0.68	5.0	--- U	--- U	--- U	--- U	--- U
38. Dibromomethane	0.28	10.0	--- U	--- U	--- U	--- U	--- U
39. Styrene	0.19	1.0	--- U	--- U	--- U	--- U	--- U
40. Bromoform	0.20	3.0	--- U	--- U	--- U	--- U	--- U
41. 1,1,2,2-Tetrachloroethane	0.26	3.0	--- U	--- U	--- U	--- U	--- U
42. 1,2,3-Trichloropropane	0.43	1.0	--- U	--- U	--- U	--- U	--- U
43. 1,4-Dichlorobenzene	0.39	1.0	--- U	--- U	--- U	--- U	--- U
44. 1,2-Dichlorobenzene	0.32	5.0	--- U	--- U	--- U	--- U	--- U
45. 1,2-Dibromo-3-Chloropropane	0.34	13.0	--- U	--- U	--- U	--- U	--- U
46. Acrylonitrile	2.72	200.0	--- U	--- U	--- U	--- U	--- U
47. trans-1,4-Dichloro-2-Butene	0.42	100.0	--- U	--- U	--- U	--- U	--- U

J = Between MDL and SWSL, U = Below ALL Quanititation Limits.

Environment 1, Incorporated

Drinking Water ID: 37115
Wastewater ID: 10

P.O. BOX 7085, 114 OAKMONT DRIVE
GREENVILLE, N.C. 27835-7085

PHONE (252) 756-6208
FAX (252) 756-0633

CLIENT: LENOIR CO. LANDFILL (NEW)
COUNTY OF LENOIR
MR. TOM MILLER
P.O. BOX 756
KINSTON, NC 28502

CLIENT ID: 6053

ANALYST: MAO
DATE COLLECTED: 01/11/10
DATE REPORTED: 01/22/10

REVIEWED BY:

VOLATILE ORGANICS
EPA METHOD 8260B

PARAMETERS, ug/l	Date Analyzed: MDL	SWSL	01/13/10 MW-18
1. Chloromethane	0.77	1.0	--- U
2. Vinyl Chloride	0.63	1.0	--- U
3. Bromomethane	0.67	10.0	--- U
4. Chloroethane	0.48	10.0	--- U
5. Trichlorofluoromethane	0.24	1.0	--- U
6. 1,1-Dichloroethene	0.17	5.0	--- U
7. Acetone	9.06	100.0	--- U
8. Iodomethane	0.26	10.0	--- U
9. Carbon Disulfide	0.23	100.0	--- U
10. Methylene Chloride	0.64	1.0	--- U
11. trans-1,2-Dichloroethene	0.23	5.0	--- U
12. 1,1-Dichloroethane	0.20	5.0	--- U
13. Vinyl Acetate	0.20	50.0	--- U
14. Cis-1,2-Dichloroethene	0.25	5.0	--- U
15. 2-Butanone	2.21	100.0	--- U
16. Bromochloromethane	0.27	3.0	--- U
17. Chloroform	0.25	5.0	--- U
18. 1,1,1-Trichloroethane	0.19	1.0	--- U
19. Carbon Tetrachloride	0.22	1.0	--- U
20. Benzene	0.24	1.0	--- U
21. 1,2-Dichloroethane	0.27	1.0	--- U
22. Trichloroethene	0.23	1.0	--- U
23. 1,2-Dichloropropane	0.21	1.0	--- U
24. Bromodichloromethane	0.21	1.0	--- U
25. Cis-1,3-Dichloropropene	0.24	1.0	--- U
26. 4-Methyl-2-Pentanone	1.19	100.0	--- U
27. Toluene	0.23	1.0	--- U
28. trans-1,3-Dichloropropene	0.28	1.0	--- U
29. 1,1,2-Trichloroethane	0.25	1.0	--- U
30. Tetrachloroethene	0.17	1.0	--- U
31. 2-Hexanone	1.57	50.0	--- U
32. Dibromochloromethane	0.24	3.0	--- U
33. 1,2-Dibromoethane	0.26	1.0	--- U
34. Chlorobenzene	0.30	3.0	--- U
35. 1,1,1,2-Tetrachloroethane	0.22	5.0	--- U
36. Ethylbenzene	0.21	1.0	--- U
37. Xylenes	0.68	5.0	--- U
38. Dibromomethane	0.28	10.0	--- U
39. Styrene	0.19	1.0	--- U
40. Bromoform	0.20	3.0	--- U
41. 1,1,2,2-Tetrachloroethane	0.26	3.0	--- U
42. 1,2,3-Trichloropropane	0.43	1.0	--- U
43. 1,4-Dichlorobenzene	0.39	1.0	--- U
44. 1,2-Dichlorobenzene	0.32	5.0	--- U
45. 1,2-Dibromo-3-Chloropropane	0.34	13.0	--- U
46. Acrylonitrile	2.72	200.0	--- U
47. trans-1,4-Dichloro-2-Butene	0.42	100.0	--- U

J = Between MDL and SWSL, U = Below ALL Quanititation Limits.

Environment 1, Inc.
P.O. Box 7085, 714 Oakmont Dr.
Greenville, NC 27858

Phone (252) 756-6208 • Fax (252) 756-0633

CHAIN OF CUSTODY RECORD

CLIENT: 6053 **Week:** 4

LENOIR CO. LANDFILL (NEW)
COUNTY OF LENOIR
MR. TOM MILLER
P.O. BOX 756
KINSTON NC 28502

(252) 566-5408

DISINFECTION
- ☐ CHLORINE
- ☐ UV
- ☐ NONE
- ☐ _____

SAMPLE LOCATION		COLLECTION DATE	COLLECTION TIME	TOTAL CHLORINE, mg/l AT COLLECTION	TEMPERATURE, °C AT COLLECTION	# OF CONTAINERS	Field pH	Metals	Conductivity	Temperature	Field Parameter	EPA 8260B	8260 Dup. 1	8260 Dup. 2
							P	P	P	P		G	G	G
							A	A	A	A		E	E	E
MW-13	01	11 10	1205		18	5	G	G	G	G	G	G	G	G
MW-14	01	11 10	1130		15	4	G	G	G	G	G	G	G	
MW-15	01	11 10	1135		11	4	G	G	G	G	G	G	G	
MW-16	01	11 10	1140		11	4	G	G	G	G	G	G	G	
MW-17	01	11 10	1150		17	4	G	G	G	G	G	G	G	
MW-18	02	11 10	1200		12	4	G	G	G	G	G	G	G	
SW-3	01	11 10	1215		5	4	G	G	G	G		G	G	
Piezometer #22	01	11 10				1					G			
Pizeometer #1-4	01	11 10				1					G			
Piezometer #1-14	01	11 10				1					G			
Piezometer #14	01	11 10				1					G			

PARAMETERS

A - NONE D - NAOH
B - HNO_3 E - HCL
C - H_2SO_4 F - ZINC ACETATE
G - NA THIOSULFATE

CHLORINE NEUTRALIZED AT COLLECTION

pH CHECK (LAB) 2 2 2

CONTAINER TYPE, P/G

CHEMICAL PRESERVATION

CLASSIFICATION:
- ☐ WASTEWATER (NPDES)
- ☐ DRINKING WATER
- ☐ DWQ/GW
- ☒ SOLID WASTE SECTION

CHAIN OF CUSTODY MAINTAINED DURING SHIPMENT/DELIVERY
(Y) N

SAMPLES COLLECTED BY: (Please Print) K Hogge for

SAMPLES RECEIVED IN LAB AT 0.2°C

RELINQUISHED BY (SIG.) (SAMPLER)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
K Hogge 01	11 10	B Durrett	11/11 2:15
RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME

COMMENTS: SW #3 Dry at collection

PLEASE READ Instructions for completing this form on the reverse side.

Sampler must place a "C" for composite sample or a "G" for Grab sample in the blocks above for each parameter requested.

FORM #5

№ 199410

Environment 1, Inc.
P.O. Box 7085, 114 Oakmont Dr.
Greenville, NC 27858

Phone (252) 756-6208 • Fax (252) 756-0633

CHAIN OF CUSTODY RECORD

CLIENT: 6053 **Week: 4**

LENOIR CO. LANDFILL (NEW)
COUNTY OF LENOIR
MR. TOM MILLER
P.O. BOX 756
KINSTON NC 28502

(252) 566-5408

DISINFECTION
- ☐ CHLORINE
- ☐ UV
- ☐ NONE
- ☐ _____

SAMPLE LOCATION	COLLECTION DATE	COLLECTION TIME	TOTAL CHLORINE, mg/l AT COLLECTION	TEMPERATURE, °C AT COLLECTION	# OF CONTAINERS	Field pH	Metals	Conductivity	Temperature	Field Parameter	EPA 8260B	8260 Dup. 1	8260 Dup. 2
						P	P	P	P		G	G	G
						A	A	A	A		E	E	E
Piezometer #3A 01	1/11/10				1					G			
Pizeometer #16 02	1/11/10				1					G			
Piezometer #17 01	1/11/10				1					G			

CHLORINE NEUTRALIZED AT COLLECTION

pH CHECK (LAB)

CONTAINER TYPE, P/G

CHEMICAL PRESERVATION

PARAMETERS

A - NONE D - NAOH
B - HNO_3 E - HCL
C - H_2SO_4 F - ZINC ACETATE
G - NA THIOSULFATE

CLASSIFICATION:
- ☐ WASTEWATER (NPDES)
- ☐ DRINKING WATER
- ☐ DWQ/GW
- ☒ SOLID WASTE SECTION

CHAIN OF CUSTODY MAINTAINED DURING SHIPMENT/DELIVERY
(Y) N

SAMPLES COLLECTED BY:
(Please Print)
H Inge / tot

SAMPLES RECEIVED IN LAB AT 02 °C

RELINQUISHED BY (SIG.) (SAMPLER)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
Bob H Inge 01	1/11/10		
RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME

COMMENTS:
P 16 DRY

PLEASE READ Instructions for completing this form on the reverse side.

Sampler must place a "C" for composite sample or a "G" for Grab sample in the blocks above for each parameter requested.

FORM #5

№ 199409

Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

P.O. BOX 7085, 114 OAKMONT DRIVE
GREENVILLE, N.C. 27835-7085

PHONE (252) 756-6208
FAX (252) 756-0633

ID#: 628

LENOIR CO. LANDFILL (LEACHATE)
MR. TOM MILLER
LENOIR COUNTY LANDFILL
2949 HODGES FARM ROAD
LAGRANGE ,NC 28551

DATE COLLECTED: 01/07/10
DATE REPORTED : 02/24/10

REVIEWED BY:

PARAMETERS	Leachate	Analysis Date	Analyst	Method Code
PH (not to be used for reporting)	7.7	01/07/10	TRB	SM4500HB
BOD, mg/l	54	01/07/10	TRB	SM5210B
COD, mg/l	556	01/14/10	TRB	HACH8000
Total Suspended Residue, mg/l	36	01/07/10	JIJ	SM2540D
Ammonia Nitrogen as N, mg/l	241	01/12/10	TWA	EPA350.1
Total Kjeldahl Nitrogen as N,mg/l	375	01/11/10	ANO	EPA351.2
Nitrate Nitrogen as N, mg/l	0.04	01/11/10	ANO	EPA353.2
Total Phosphorus as P, mg/l	0.21	01/11/10	ANO	EPA365.4
Total Cyanide, mg/l	<0.005	01/12/10	SEJ	SM4500 CN-E
Sulfate, mg/l	<5.0	01/11/10	TRB	SM426C
Antimony, ug/l	<3.0	01/12/10	CMF	EPA200.8
Arsenic, ug/l	6	01/14/10	CMF	SM3113B
Barium, ug/l	234	01/08/10	LFJ	EPA200.7
Beryllium, ug/l	<1.0	01/08/10	LFJ	EPA200.7
Cadmium, ug/l	<1.0	01/12/10	CMF	SM3113B
Cobalt, ug/l	<10	01/12/10	CMF	EPA200.8
Copper, ug/l	< 10	01/08/10	LFJ	EPA200.7
Total Chromium, ug/l	<5.0	01/08/10	LFJ	EPA200.7
Lead, ug/l	<5.0	01/13/10	CMF	SM3113B
Mercury, ug/l	<0.2	01/14/10	ADD	EPA245.1
Molybdenum, ug/l	< 10	01/08/10	LFJ	EPA200.7
Nickel, ug/l	22	01/11/10	LFJ	EPA200.7
Selenium, ug/l	< 10	01/11/10	CMF	SM3113B
Silver, ug/l	<5.0	01/08/10	LFJ	EPA200.7
Thallium, ug/l	<1.0	01/12/10	CMF	EPA200.8
Vanadium, ug/l	< 10	01/08/10	LFJ	EPA200.7
Zinc, ug/l	20	01/13/10	ADD	SM3111B

Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

P.O. BOX 7085, 114 OAKMONT DRIVE
GREENVILLE, N.C. 27835-7085

PHONE (252) 756-6208
FAX (252) 756-0633

CLIENT: LENOIR CO. LANDFILL (LEACHATE)
MR. TOM MILLER
LENOIR COUNTY LANDFILL
2949 HODGES FARM ROAD
LAGRANGE, NC 28551

REVIEWED BY: _____

CLIENT ID: 628
ANALYST: CHS
DATE COLLECTED: 01/07/10
DATE EXTRACTED: 01/12/10
DATE ANALYZED: 02/01/10
DATE REPORTED: 02/24/10

SEMIVOLATILE ORGANICS
EPA METHOD 625

PARAMETERS, ug/l	Leachate
1. N-Nitrosodimethylamine	<10.00
2. Phenol	<10.00
3. Bis(2-Chloroethyl) Ether	<10.00
4. 2-Chlorophenol	<10.00
5. 1,3-Dichlorobenzene	<10.00
6. 1,4-Dichlorobenzene	<10.00
7. 1,2-Dichlorobenzene	<10.00
8. Bis(2-Chloroisopropyl) Ether	<10.00
9. Hexachloroethane	<10.00
10. N-Nitrosodi-N-Propylamine	<10.00
11. Nitrobenzene	<10.00
12. Isophorone	<10.00
13. 2-Nitrophenol	<10.00
14. 2,4-Dimethylphenol	<10.00
15. Bis(2-Chloroethoxy) Methane	<10.00
16. 2,4-Dichlorophenol	<10.00
17. 1,2,4-Trichlorobenzene	<10.00
18. Naphthalene	<10.00
19. Hexachlorobutadiene	<10.00
20. 4-Chloro-3-Methylphenol	<20.00
21. Hexachlorocyclopentadiene	<10.00
22. 2,4,6-Trichlorophenol	<10.00
23. 2-Chloronaphthalene	<10.00
24. Acenaphthylene	<10.00
25. Dimethylphthalate	<10.00
26. 2,6-Dinitrotoulene	<10.00
27. Acenaphthene	<10.00
28. 2,4-Dinitrophenol	<50.00
29. 4-Nitrophenol	<50.00
30. 2,4-Dinitrotoluene	<10.00
31. Fluorene	<10.00
32. Diethylphthalate	<10.00
33. 4-Chlorophenyl Phenyl Ether	<10.00
34. 4,6-Dinitro-2-Methylphenol	<50.00
35. N-Nitrosodiphenylamine	<10.00
36. 4-Bromophenyl Phenyl Ether	<10.00
37. Hexachlorobenzene	<10.00
38. Pentachlorophenol	<50.00
39. Phenanthrene	<10.00
40. Anthracene	<10.00
41. Di-N-Butylphthalate	<10.00
42. Fluoranthene	<10.00
43. Benzidine	<100.00
44. Pyrene	<10.00
45. Butylbenzylphthlate	<10.00
46. Benzo[a]anthracene	<10.00
47. 3,3-Dichlorobenzadine	<10.00
48. Chrysene	<10.00

Environment 1, Incorporated

Drinking Water ID: 37715
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GREENVILLE, N.C. 27835-7085

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CLIENT: LENOIR CO. LANDFILL (LEACHATE)
MR. TOM MILLER
LENOIR COUNTY LANDFILL
2949 HODGES FARM ROAD
LAGRANGE, NC 28551

REVIEWED BY:

CLIENT ID: 628
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SEMIVOLATILE ORGANICS
EPA METHOD 625

PARAMETERS, ug/l	Leachate
49. Bis(2-Ethylhexyl)phthalate	29.00
50. Di-N-Octylphthalate	<10.00
51. Benzo[b]fluoranthene	<10.00
52. Benzo[k]fluoranthene	<10.00
53. Benzo[a]pyrene	<10.00
54. Indeno(1,2,3-C,d)pyrene	<10.00
55. Dibenzo[a,h]anthracene	<10.00
56. Benzo[g,h,i]perylene	<10.00
57. 1,2-Diphenylhydrazine	<10.00

Environment 1, Incorporated

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CLIENT: LENOIR CO. LANDFILL (LEACHATE)
MR. TOM MILLER
LENOIR COUNTY LANDFILL
2949 HODGES FARM ROAD
LAGRANGE, NC 28551

CLIENT ID: 628
ANALYST: MAO
DATE COLLECTED: 01/07/10
DATE ANALYZED: 01/12/10
DATE REPORTED: 02/24/10

REVIEWED BY:

VOLATILE ORGANICS
EPA METHOD 8260B

PARAMETERS, ug/l	Leachate
1. Chloromethane	<1.00
2. Vinyl Chloride	<1.00
3. Bromomethane	<10.00
4. Chloroethane	<10.00
5. Trichlorofluoromethane	<1.00
6. 1,1-Dichloroethene	<5.00
7. Acetone	<100.00
8. Iodomethane	<10.00
9. Carbon Disulfide	<100.00
10. Methylene Chloride	<1.00
11. trans-1,2-Dichloroethene	<5.00
12. 1,1-Dichloroethane	<5.00
13. Vinyl Acetate	<50.00
14. Cis-1,2-Dichloroethene	<5.00
15. 2-Butanone	<100.00
16. Bromochloromethane	<3.00
17. Chloroform	<5.00
18. 1,1,1-Trichloroethane	<1.00
19. Carbon Tetrachloride	<1.00
20. Benzene	2.10
21. 1,2-Dichloroethane	<1.00
22. Trichloroethene	<1.00
23. 1,2-Dichloropropane	<1.00
24. Bromodichloromethane	<1.00
25. Cis-1,3-Dichloropropene	<1.00
26. 4-Methyl-2-Pentanone	<100.00
27. Toluene	2.70
28. trans-1,3-Dichloropropene	<1.00
29. 1,1,2-Trichloroethane	<1.00
30. Tetrachloroethene	<1.00
31. 2-Hexanone	<50.00
32. Dibromochloromethane	<3.00
33. 1,2-Dibromoethane	<1.00
34. Chlorobenzene	<3.00
35. 1,1,1,2-Tetrachloroethane	<5.00
36. Ethylbenzene	<1.00
37. Xylenes	7.30
38. Dibromomethane	<10.00
39. Styrene	<1.00
40. Bromoform	<3.00
41. 1,1,2,2-Tetrachloroethane	<3.00
42. 1,2,3-Trichloropropane	<1.00
43. 1,4-Dichlorobenzene	<1.00
44. 1,2-Dichlorobenzene	<5.00
45. 1,2-Dibromo-3-Chloropropane	<13.00
46. Acrylonitrile	<200.00
47. trans-1,4-Dichloro-2-Butene	<100.00